REMARKS/ARGUMENTS

1. Amendments to the Specification

The original paragraph [0018] has been amended to correct typographical errors. No new matter is introduced. Consideration of the amendments is respectfully requested.

2. Claim rejections – 35 U.S.C. 112

Claims 8 – 10 were rejected under 35 U.S.C. 112 as being indefinite.

Response

Claim 8 has been amended to replace the limitation "the same algorithm" with "a same algorithm". As claims 9 – 10 are dependent on Claim 8 they should also overcome the rejection under 35 U.S.C. 112.

3. Claim rejections – 35 U.S.C. 102(b)

Claims 1 – 8 and 11 – 19 were rejected under 35 U.S.C. 102(b) as being anticipated by Midgley et al.

Response

Claim 1

Claim 1 discloses a limitation of a loadable kernel module that has at least a **specific system call**. The specific system call notifies the source computer that a file modification that needs to be backed up to the destination computer has taken place: "When the new system call 109 notifies the loadable kernel module 110, the call determining unit 144 of the loadable kernel module 110 first determines whether the new system call 109 is one

of the predetermined system calls, such as SYS_RMDIR, SYS_MKDIR, SYS_RENAME, SYS_LINK, SYS_CHMOD, etc. If yes, the message processing unit 116 generates a corresponding file modification message including at least the filename and path of the modified file to the scheduling module 120. If no, the system call is ignored and the process is terminated" Para [0018]. As can be seen from the above extract, **the system call directly informs the source computer what kind of modification has taken place instead of redirecting the modified file to other areas in the computer system.** Midgley discloses a filter (FSF 130) that intercepts file modifications and copies the modifications to a journal file: "The FSF 130 intercepts the request to write the data carried within the IRP 132. The FSF 130 than *(sic)* passes the request to the NT file system 134 to allow the data to be written to the device 138, which can be a hard disk drive. If the data is successfully written to the device 138, the device driver returns through the file system 134 and through the filter 130 an IRP that indicates the write was successful. The data for the IRP may than *(sic)* be copied by the FSF 130 to a journal file" [Col. 16, lines 14 – 20]. The cited FSF actively copies (redirects) the file modifications when detecting requests associated with said file modifications, whereas the system call of the present invention is only utilized to generate a notification used for instructing a generation of a file modification message.

The file modification message of Claim 1 is utilized for informing the source computer that a modification has taken place, but does not involve copying file changes to another area of the source computer. However, referring to the disclosure stated in col.16, lines 12-25, the FSF disclosed by Midgley **fails to create any notification messages**, used for instructing following copying operation of the changed data, to other devices.

The scheduling module of Claim 1 utilizes a queue to store all file modification messages, and then generate corresponding back up commands. Midgley discloses a

journal file for storing all changes, wherein a journal file only stores changes from one specific file: "The agent process 30 can create a record of the changes made to a particular file and store that record within a journal file that keeps track of the different changes made by a user, or other entity, to a source data file" [Col.7, lines 51 – 54]. Therefore, if a plurality of files are modified, the system of Midgley requires a plurality of corresponding journal files to store all changes. The disclosed invention only requires a single queue because each file modification message contains a file path so the origin of the modification can be known by the back up system. The claimed feature of **queuing** file modification messages is neither taught nor suggested by Midgley. Furthermore, Midgley does not disclose generating a backup command in response to each file modification. When data is written to a journal file, the file will be directly transferred to the backup system.

The backup system of Claim 1 utilizes the enclosed file information of the file modification messages to determine the difference between the original file and the modified file. However, Midgley discloses a backup system wherein modifications (or an entire file) are first written to a journal file and then written to the backup system.

The applicant therefore believes that all claimed components of the real-time remote backup system in Claim 1 differ both in function and result from components of the backup system of Midgley, and Claim 1 should overcome the Examiner's rejection. Reconsideration of Claim 1 is respectfully requested.

Claims 2 - 4

Claim 2 has the limitation that an original system call in the source computer is replaced by a specific system call. Claim 3 contains the limitation of a graphical user interface for switching between the original system call and the specific system call. Claim 4 discloses a call determining unit and message processing unit, for generating a

file modification message if the call determining unit determines the system call is a predetermined system call. According to the above arguments under the response to Claim 1, the claimed system call is different from the file system filter disclosed by Midgley. These limitations in claims 2 - 4 are neither disclosed nor anticipated by Midgley. Furthermore, as these claims are dependent on Claim 1, the applicant believes claims 2- 4 have overcome the prior art rejection.

Claim 5

Claim 5 has the limitation where the file modification message has a filename and path of the modified file. The file modification message is generated in response to the system call. Midgley discloses a file system filter (130) that captures an original write request (IRP 132) to generate a file modification message. As quoted under response to Claim 1: "The FSF 130 intercepts the request to write the data carried within the IRP 132. The FSF 130 than *(sic)* passes the request to the NT file system 134 to allow the data to be written to the device 138, which can be a hard disk drive. If the data is successfully written to the device 138, the device driver returns through the file system 134 and through the filter 130 an IRP that indicates the write was successful" [Col. 16, lines 14 – 19]. Please note the second IRP in the above passage is not the IRP 132 of the original write request. The second IRP is only for notifying a write has taken place, and Midgley does not disclose that said IRP contains details regarding the modified file. Furthermore, as Claim 5 is dependent on Claim 1, the applicant believes claim 5 has overcome the prior art rejection.

Claims 6 – 8

Claims 6 – 8 further define the scheduling module of Claim 1. Since claims 6 - 8 are dependent upon Claim 1, they should be allowed if claim 1 is found allowable.

Claims 9 – 10

As the Examiner stated in the section "Allowable Subject Matter", claims 9 – 10 would be allowable if rewritten in independent form, including all limitations of the base claim and intervening claims. As the applicant believes Claim 1 and all intervening claims have been placed in a position for allowance, however, claims 9 – 10 are kept as dependent claims and the applicant believes that they should still be found allowable by the Examiner.

Claim 11

Claim 11 has the limitation that the backup command comprises at least the path of the modified file. As detailed under the response to Claim 1, no backup commands are generated by Midgley; rather, when a journal corresponding to one specific file contains information, that information will be directly passed to the backup server. The applicant therefore believes that Claim 11 should be found allowable.

Claim 12

As Claim 12 is dependent on Claim 1 it should be found allowable if Claim 1 is found allowable.

Claim 13

As detailed in the response to Claim 1, Midgley does not disclose a specific system call, wherein corresponding file modification messages are generated "according to the type of the system call". Furthermore, Midgley does not disclose a single queue for storing all file modification indications, but discloses a plurality of journal files, each journal file containing modifications corresponding to a specific file. Applicant therefore believes that Claim 13 overcomes the prior art rejection.

Claim 14

As per the arguments in the response to claims 1 and 5, the file modification

message of Claim 13 is neither disclosed nor anticipated by Midgley, and the applicant therefore believes that Claim 14 should be found allowable.

Claim 15

As no backup commands are generated by Midgley, and Midgley only claims directly passing information in a journal to the backup server when the journal contains information, the applicant believes that Claim 15 should be found allowable.

Claim 16

Claim 16 is a method claim having similar limitations to Claim 1. As the applicant believes Claim 1 has been placed in a position for allowance, Claim 16 should also be found allowable.

Claim 17

As Midgley does not disclose the file modification message generation, applicant believes Claim 17 should be found allowable.

Claim 18

As Midgley does not disclose the backup command, applicant believes Claim 18 should be found allowable.

Claim 19

As Midgley does not disclose predetermined system calls according to a type of modification, applicant believes Claim 19 should be found allowable.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

Winston Hsu Date: 12/22/2006

Winston Hsu, Patent Agent No. 41,526
P.O. BOX 506, Merrifield, VA 22116, U.S.A.
Voice Mail: 302-729-1562
Facsimile: 806-498-6673
e-mail : winstonhsu@naipo.com

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